Marine Technology And Aquaculture Center Key Consumer Perception Study

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Appendix 3

Executive Summary

- Study Aims

>Introduce the aquaculture and marine bio-technology center product concept to key consumers, identify key consumer perceptions of the center product concept, identify key consumer perceptions of the expected contributions of the center, generate specific recommendations from key consumer regarding details of the proposed center, and identify a base of potential tenants for the center.

- Scope of Study

>Explore the perceptions and opinions of key members of the regional aquaculture and marine bio-technology communities through individual depth interviews. Discuss issues pertaining to the basic concept of the center, potential contributions of the center, specific details of the proposed center's product offering and promotion of the center to potential tenants.

- Methodology

>Qualitative data collection techniques were used. Nine individual, depth interviews were conducted during July and August 2002. An interview guide was developed to explore key issues. A combination of audiotapes, electronic messages and individual notes were used to record participant responses. Two researchers prepared interview transcripts for each respondent. These dual transcripts were compared for consistency. Where discrepancies occurred, original sources were reviewed and transcripts were edited in an iterative process. Content analysis was then applied to the prepared transcripts.
A final transcript composite was developed for interpretation of key findings.

- Key Findings: Perceptions of the Center Concept

>Key consumers have positive perceptions of the center concept. Several feel this concept "cannot lose". Others temper their support for the concept with reservations. Many felt the current level of detail in the center proposal was too vague to accurately consider. Others felt the center would be hampered by political and institutional constraints. A final concern was a perceived lack of attention to generating public interest and education through the efforts pf the center.

- Key Findings: Potential Contributions of the Center

>Key consumers felt start-up ventures in the regional aquaculture and marine bio-technology communities would benefit most dramatically from the proposed center. They felt additional clear benefits would be gained by members of the

academic and research communities within the region. Key consumers identified 11 positive trends, which could be realized with assistance from the proposed center, including: growth, productivity increases and diversification. They also felt the regional aquaculture and marine bio-technology communities would fail to capitalize on these positive trends without assistance of the center.

- Key Findings: Proposed Product Offering

>Key consumers agreed with the list of propose services offerings illustrated in the preliminary overview of the center. They reiterated the key service necessity to be ample and excellent water. They recommended several additions to the service offering including: environmental management assistance, security measures, fund-raising support and on-site agency support. These consumers found the proposed offering to be significantly lacking in terms of educational support services and opportunities, especially in terms of public education.

- Key Findings: Identifying Tenants

>Key consumers offered both specific contact suggestions and recommendations for center promotions and public relations.

Marine Bio-Technology Center Key Consumer Perception Study

This report documents the findings of an exploratory study conducted for The Center for Economic and Environmental Development by Dr. Amy Morgan Tomas and Daniel J. Woyke, Roger Williams University. The RI Aquaculture Initiative funded the study.

Scope of Study

The consumer perception study reported here addressed a variety of questions related to the development of an aquaculture and marine bio-technology center in Rhode Island. Opinions were sought from topic experts within the regional aquaculture and bio-technology communities. Specifically, key consumers were asked to:

(1) describe their perceptions of the center product concept as well as its specific details;

(2) consider the potential contributions of the center to the regional aquaculture and marine biotechnology communities;

(3) provide specific recommendations on the center offerings, pricing structure; and

(4) help to identify potential tenants for the center.

Data Collection

Data for the consumer perception study were collected through a series of depth interviews with key members of the regional aquaculture and marine bio-technology communities. While qualitative research through long interview format cannot provide broadly generalizable data, these interviews are ideal for an exploratory research project focused on product development. These interviews have several strengths including: generating insights from a specific population, providing the ability to probe unanticipated issues, offering a great deal of flexibility, and allowing for greater interpretation than survey methods.

A total of 10 interviews were conducted during July and August, 2002. Respondents selected their preferred interview format: three elected face-to-face meetings, six elected phone conversations and one respondent replied with detailed written responses via electronic mail. The personal interviews lasted approximately 90 minutes each while phone interviews lasted approximately 60 minutes each.

A judgment sampling technique was used. While this technique sacrifices generalizability it offers the opportunity to identify truly key individuals for contact. As would be expected from a group of interested individuals, response to the project was quite positive. A total of 35 names were provided for the initial sampling group. Initial contact inviting participation was made via email. A sample of this invitation is included in Exhibit A. Those individuals who agreed to participate in the research were provided with two documents prior to their interviews: a Center Overview (Exhibit B) and a list of questions to anticipate (Exhibit C).

Four email messages were returned or unusable. Of the 31 messages reaching target, 18 individuals agreed to participate in the study. Six of these respondents have been identified for follow-up interviews via focus group. Two individuals received the survey materials via email but did not provide a response. Ultimately, 10 depth interviews were completed and usable for an effective response rate of 32 percent. While response consensus may be expected around the third and fourth interview, all willing participants were included to reach the greatest possible depth of information.

The limited scope of audience must guide the interpretation of these results. Eight of the ten individuals interviewed were administrators or policy makers in the regional marine technology community. These individuals provided many excellent suggestions and a great deal of support and enthusiasm for the project. The majority of this group offered comments like “build it and they will come “,” this could really take off, and this is a no-brainer. However, none of these individuals are potential tenants for such a facility.

FINDINGS: PERCEPTIONS OF THE CENTER CONCEPT

Following an introduction and overview of the interview process, respondents were asked to briefly review the center overview they had received. Data collection began with a discussion of the respondent’s first summary impression of the center concept. Respondents provided significant discussion of their impressions. A total of 27 individual impressions were raised regarding the center concept.

Research Question: What was your first impression of the center concept after reading the overview?

These impressions were overwhelmingly favorable to the marine technology center project concept. Only one respondent had no positive impressions, describing the concept as “too broad”, “a cookie cutter concept,” and “lacking for the public sector”. Three respondents had only positive impressions, describing

the concept as something that: “could really take off,” “would be a great thing to have in Rhode Island,” and “just makes a lot of sense”.

The remaining five respondents had impressions best described as positive with qualifications. Each described at least one limitation or concern with the current center concept. The impressions given multiple times are summarized below.

FIRST IMPRESSIONS

In General:

- (9 respondents) A great idea.

Qualifications:

- (5 respondents) Proposal is too general. Need to present a more detailed concept in terms of: focus for center tenants, funding utilized, technology available, companies that might use the center, unique benefits to be provided by the center
- (3 respondents) Good foundation laid to build on
- (3 respondents) Must eliminate political and institutional constraints
- (2 respondents) Current proposal is lacking emphasis on public education and public interest

Later in the interview, respondents were asked to provide their suggestions for improvement of the center concept. Nine specific suggestions (listed below) for improvement were offered. Key suggestions were to: (1) broaden the focus of the center to encompass developments in other sciences, (2) narrow the focus of the center to a key target segment of the industry; (3) strengthen the educational elements of the center and (4) increase public education/outreach for the industry in general and to promote the unique benefits of the center itself.

Research Question: What can, or should, we do to improve on the marine technology center proposal?

QUOTING OUR RESPONDENTS, TO IMPROVE THE CENTER CONCEPT PROPOSAL…

- think more broadly, include everything from shellfish to environmental restoration.
- include a clear and detailed cost structure.
- consider statewide educational outreach on aquaculture.
- include public education in the package: everything about the center depends on education: public and private.
- consider energy and renewable sources.
- develop a link between URI and RWU.
- be more focused on target customers and market segments.
- focus on key ideas or parts of the industry, you're too broad.
- provide concrete examples of businesses and companies that would benefit from the center and how…especially for biotech companies.

FINDINGS: POTENTIAL CONTRIBUTIONS

The second objective of the study was to determine what contributions might be expected to emanate from the proposed center. Respondents were asked three questions on potential contributions. First, they were asked to consider which group(s) stand to benefit most from the proposed center. Later they were asked to consider future aquaculture/marine technology trends in the region: with the

influence of the proposed center and without the influence of the proposed center.

Research Question: Which members of the regional aquaculture and marine technology communities will benefit most from this proposed facility?

Responses to this question clearly indicated start-up aquaculture and marine biotechnology companies as the primary group to benefit from the proposed center. Eight of the ten respondents discussed the value of the center to this group. Their comments focused on two key issues: pre-permitting and technology optimization.

A second group described as benefiting most from the facility is the researchers and students affiliated with Rhode Island universities. Three respondents spoke at length about the substantial benefits that could be gained through synergy among research, educational and commercial endeavors within and supported by the center.

Other potential beneficiaries were mentioned by one respondent. These groups include: (1) the seafood industry, (2) fishermen, (3) Federal agencies, (4) the State of Rhode Island, (5) hobbyists and (6) everyone.

Research Question a: What trends do you foresee developing for aquaculture in Rhode Island with the assistance of the center?

Research Question b: What trends do you foresee developing for aquaculture in Rhode Island without the assistance of the center?

Responses to these questions on trend projection point to a number of potential benefits to be drawn from the proposed center to the regional aquaculture and marine technology communities. Respondents imagined 11 positive trends developing given the presence of the proposed center.

A sample of the responses follows. Please note that several respondents gave multiple impressions.

LIKELY TRENDS WITH ASSISTANCE OF THE CENTER

- Offshore, common fisheries
- Larger amounts of aquaculture in the state
- More local and more productive projects
- New growth in the center will stimulate all aspects of aquaculture in Rhode Island
- A large growing environment from the sea
- People taking care of "the Bay"
- Diversification: more species and more methodology
- More and more people entering the field
- Development of support services and goods for aquaculture worldwide
- Proof of concept for new technologies
- Production of niche species

Perhaps the strongest message comes from responses to question "b ". Asked to project trends in the state without the presence of the proposed center, only one of the ten respondents discussed any foreseeable trend ("too many to name"). Five of the respondents indicated that there would be no foreseeable trends in Rhode Island without the presence of the proposed center ("we'll stay on the path we are on," "the course we are on," "no growth, more legal problems").

FINDINGS: THE PROPOSED CENTER

The third objective of the study was to generate feedback from our expert audience on specific details of the proposed center concept itself to be used in strengthening the product concept. Respondents were asked a series of questions relating to the basic offerings, value-added services and pricing for the proposed center.

Research Question: What services would you expect a marine technology center of this type to offer for its tenants?

Here respondents were asked to consider the basic services to be provided to all tenants as part of a standard lease agreement for a flat rate. Responses here indicate the importance of ample, clean water. Nine of ten respondents indicate clean, clear water as their primary expectation of services to be provided by the center.

The second most frequently mentioned service expectations were the clean or renewable energy sources and adequate waste management programs suggested by four respondents. Two respondents emphasized the expectation of security both from theft of intellectual or physical property and from loss of

investment such as power failures or other damage to incubating projects. Each of the following basic services was mentioned by one respondent: ease of access to/from facility, each of access to major transportation channels, assistance with permitting, outreach programs to the community, management and business planning, very good equipment, adequate office and lab space and communications support (phone and internet connections).

Next, respondents were asked to consider a series of questions related to the list of "optional" services provided in the Center Overview. Center tenants would pay separate, additional fees for any of these services.

Research Question a: Which of these services would you, personally, find to be most valuable?

Research Question b: Which of these services will make valuable contributions to the regional aquaculture and marine technology communities?

Responses to questions a and b stressed the need to make business-related services. Both in terms of individual center tenants and the regional communities, marketing and business planning were discussed almost exclusively. In terms of the services respondents felt to be most valuable, five respondents indicated marketing to be the most valuable. The remaining five respondents indicated business planning to be the most valuable.

In terms of the regional communities, marketing and business planning, again were most frequently mentioned along with the water quality and technical support offered by the center.

Next, respondents were asked to add to our lists of proposed service offerings. Several new service ideas were offered and discussed. These service suggestions follow.

Research Question c: What services have we forgotten?

SERVICE SUGGESTIONS

- A CRMC or Sea Grant representative on-site
- Transportation: airport access
- Public education
- High speed internet access
- Development assistance
- Environmental compliance training
- Bio-medical needs
- Chemical needs
- Support for loan applications and fund-raising

Research Question d: Are there services that would be more valuable during certain times of year (In other words, the "off" season)?

Respondents offered little discussion on seasonality of service offerings. The aquaculturist on the panel indicated that he "doesn't have an off- season". The others had no response. One exception was notable. This respondent said: "People fill-in-the-blanks during down times. If this facility can help to fill those blanks better, great. Maybe give educational opportunities, seminar connections or other ways of making money".

A separate set of questions was asked related to educational and training services available from the center.

Research Question e: What types of educational/training services do you feel a venture of this type should offer?

Research Question f: What types of educational/training services would be interested in being able to access through the center?

Given the unique synergies potentially created by the center, education of all types was paramount for our respondents. For questions e and f, internships and public education topped the list. Each of the ten respondents indicated internship opportunities as the first educational priority of the center. Six respondents suggested those internships range from high school to graduate level opportunities. Other educational service suggestions are listed below.

EDUCATIONAL/TRAINING SERVICES

- Short, informal courses on business topics
- Public education programs to all grade levels to generate awareness of aquaculture
- Aquaculture classroom inside the facility for use of area educators
- Education liaison with schools and general public
- Demonstration facilities for new technologies/new species
- Workshops on current topics
- On-site public access to educational materials
- Tours
- Farmers' Market
- Cooking shows to increase knowledge about new species
- Interaction with vineyards and local restaurants

A final aspect of the center overview considered by respondents was a pricing structure for the facility. Only one respondent felt comfortable projecting an answer here absent more detailed information on services, facility, etc. that respondent indicated a lease rate between $700 (for base plan) and $1,200 (for all extras) as reasonable. Other respondents indicated the project was too early in development to make reasonable cost estimates. Three respondents recommending benchmarking fees on those charge by Harbor Branch Oceanographic Institute and/or local lease rates.

FINDINGS: IDENTIFYING TENANTS

The final objective of this research was to begin the process of identifying potential tenants. The pool of respondents did lend well to specific individual inquiries as the majority (8) are administrators or program directors for academic or government organizations involved with the aquaculture and marine technology communities. The aquaculturist on the panel indicated no interest in being a tenant given an existing facility. The researcher among our respondents did indicate an interest in being a tenant at the proposed facility.

Despite the lack of interest in tenancy of the center, our respondents were helpful in several other ways in identifying tenants. They offered several significant recommendations for developing the marketing/promotional for the proposed center, as well as a list of twelve contacts involved in activities appropriate for tenancy at the center.

Research Question: What recommendations do you have for contacting potential tenants?

IDENTIFYING TENANTS

- A full-time marketing director
- Go to all the trade and association shows
- Copy HBOI
- Develop a great brochure and pay some to take it on the road
- Make a web page
- Post with Sea Grant
- Get the government on board
- Present it at conferences and other places where the word can get out
- Market through URI and RWU
- Work with the Slater Center
- Focus on the Northeast
- Advertise in related magazines

EXHIBIT A
INITIAL REQUESTS FOR PARTICIPATION

Email message 1: send to Case # 1, 1a, 1b, 13a, 13, 14, 15, 1c, 1d, 23

Dear (Mr., Ms., Representative or Dr.):

My name is Dan Woyke. I'm a marketing major at Roger Williams University in Bristol, Rhode Island. I am interning on a research study to aid in the preliminary planning for a Rhode Island Aquaculture/Marine Bio-Technology Park.

The park is envisioned as a pre-permitted facility with running sea and fresh water, effluent filtration, lab space, office space, and a variety of services including business planning, monitoring, administrative support and water quality testing available for clients at a nominal fee. The park may serve a variety of research, business and academic clients.

This study has been created to gain a variety of perspectives on the proposed park early in the planning stages, as well as to determine the level of potential support for the park within the regional aquaculture and marine biotech communities. The results of this study will be used to help refine the initial plans.

Your expertise and opinions would be very helpful to this project. I will be conducting this research during the next 5 weeks. I would be happy to gather information from you during that time period, at your convenience. I can arrange a face-to-face meeting, a phone interview, or to receive written responses via email or fax. I will be happy to provide you with a more detailed description of the park concept as well as a copy of the questions I will be asking prior to any meeting or phone call.

Thank you very much for your time and consideration,

EXHIBIT B
CENTER OVERVIEW

Aquaculture/Marine Bio-Technology Park Overview

The goal of the proposed Aquaculture/Marine Bio-Technology Park is to support the development or aquaculture and the marine biotechnology industries in Rhode Island. The park is being proposed as a R&D/incubator for work that demands running water. As a pre-permitted, land based facility; the Park will minimize many of the constraints to development in the industry. The Park will house technical expertise, offering laboratory, office and greenhouse space, flowing seawater and the necessary operating permits to attract start-up aquaculture and marine biotechnology companies. All operating permits will be in place, predators and disease organisms will be carefully monitored and adequate water flow and water quality will be assured.

The Park will include

- Waterfront
- Greenhouse space
- Building space for larger buildings/labs
- A central building to include:
    - Wet labs
    - Dry labs
    - Office space
    - Conference Room
    - Business Center
    - Mailroom
    - Kitchenette

Basic tenant arrangement will include

- Leased, pre-permitted greenhouse space or building site
- Running sea and fresh water
- Effluent filtration

Additional services available on a fee per use basis

- Water quality testing
- Lab space
- Office space
- Engineering support
- Technical support (monitoring, maintenance)
- Business planning (business plan creation, feasibility studies, financial planning, legal consultation)
- Marketing planning (promotions and advertising creation, marketing research, customer service and sales training)
- Administrative support (voice mail, business address, conference room usage, secretarial support, mailroom and photocopying services)

Potential tenants would include

- Entrepreneurs looking for a place to start aquaculture/marine biotechnology ventures
- Professors working on aquaculture/marine bio-technology developments
- R&D firms

The Park will initially be staffed by

- Full-time Director responsible for planning, administration and promotion of the park
- Full-time Technician
- Part-time Office Administrator/Receptionist

EXHIBIT C
INTERVIEW QUESTIONS

Q1 As a way of getting started, I would be very interested to hear about your own involvement with aquaculture and marine technology.

Q2 Next, I'd like to talk about your general impressions of the marine technology park proposal. (a) What was your first impression of the park concept after reading the overview?

(b) Which members of the regional aquaculture and marine technology communities will benefit most from this proposed facility?

(c) What services would you expect a marine technology park of this type to offer for its tenants?

Q3 We would also appreciate your opinions on some specific details of the park proposal. As you've seen in the park overview, the basic tenant arrangement for the park will include individual leased space with running water and all necessary permits in return for a reasonable fee. (a) What is the most that you would pay per month as a tenant of this park?

(b) What monthly tenant fee would you describe as reasonable?

Q4 In addition to the basic tenant arrangement, the park overview lists a variety of services that could be provided for tenants for additional fees. If you would, think about that list of optional services. (a) Which of these services would you, personally, find to be valuable? If "none", why?

(b) Which of these services will make valuable contributions to the regional aquaculture and marine technology communities?

(C) What services have we forgotten?

(d) Are there services that would be more valuable during certain times of year? {In other words, the "off season" from April through October}

(e) What types of educational/training services do you feel a venture of this type should offer?
(f) What types of educational/training services would be interested in being able to access through the park?

Q5 Thinking about the general park concept as well as specific details of the overview, what can, or should, we do to improve on the marine technology park proposal?

Q6 What recommendations do you have for contacting potential tenants? How can we find potential tenants for the park? Do you know of any potential tenants specifically?

Q7 Would you be interested in being a tenant of this Park?

Q7a If interested in being a "tenant" of the Park, for how long would you expect the arrangement to last?

Q7b Could I ask for an estimate of the annual income from your aquaculture venture?

Q8 What trends do you foresee developing for aquaculture in Rhode Island (a) with the assistance of the Park?

(b) without the assistance of the Park?

Thanks so much! We value your input very much. Is there anything else you'd like to tell me about the project but didn't get a chance to say?